

# Trio<sup>®</sup> + System Overview



# Trio<sup>®</sup> +

## System overview

### Introduction

To surgeons who need a reliable spinal fusion system that helps minimize operating time, Trio<sup>®</sup>+ is a top-loading, medialized rod system that saves you time via its unique one-step locking connectors that feature 360° locking onto the rod. The Trio<sup>®</sup>+ system also features pedicle screws with the Xia cortical-cancellous bone thread pattern that helps maximize strength\* at the bone-screw interface while allowing you better access to the graft site for easier decortication and maximization of bone graft. With the Trio<sup>®</sup>+ spinal system, you can help your patients in minimal operating time without sacrificing what's most important to you, their safety.

### Mission

The primary focus during the design of Trio<sup>®</sup>+ was on the **Patients, Performance, and Medical Professional**. Trio<sup>®</sup>+'s mission is to provide surgeons and nurses with a system that is simpler and easier to use, as well as, safe for the patients, providing consistent clinical results.

### Legacy

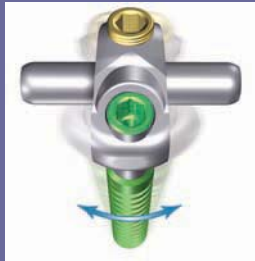
The Trio<sup>®</sup>+ Spinal system represents the latest development of Stryker Spine's systems in the treatment of posterior thoracolumbar degenerative spinal pathologies. It embeds the best of the company's key technologies built upon more than a decade of clinical experience with the Xia<sup>®</sup>, Diapason, and Opus. Trio<sup>®</sup>+ capitalizes on the legacy of those products in terms of safety and reliability.

The Trio<sup>®</sup>+ Spinal fixation system uses implants from the Trio Spinal Fixation System and instruments from the Trio, Xia, and Diapason Spinal fixation systems.

\*Data on file at Stryker Spine

# Trio<sup>®</sup> + System

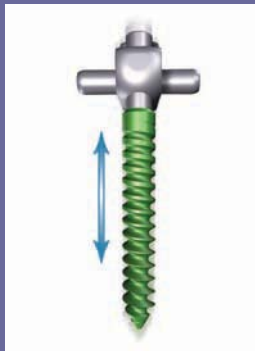
## Key Differentiators



Coronal variability



Sagittal angulation



Anterior / Posterior Adjustment

### 1. Ball Ring Technology

- Extra degree of freedom (coronal).
- 360° locking onto the rod.

### 2. Xia<sup>®</sup> thread technology

- Better screw purchase and enhanced strength at bone-screw interface\*.

### 3. One step, medial access locking

- Reduce surgical steps and fiddle.
- Eliminates threat of cross-threading.

### 4. Precise Spondy Reduction

- One turn of reduction key equals one (1) mm of reduction.

With Trio<sup>®</sup>+, surgeons have the ability to place a rod construct as fast, if not faster than other pedicle screw systems, while avoiding the facet joints as is common to medialized rod systems.

Trio<sup>®</sup>+ is designed with an innovative and low profile connector which provides the surgeon with four degrees of freedom including **50° degrees in the Coronal Plane**. This may result in easier construct assembly by eliminating or reducing the need to bend the rod. This in combination with Trio<sup>®</sup>+'s **unique one-step, medial access locking** reduces the number of surgical steps and fiddle potentially saving critical operating room time.

Trio<sup>®</sup>+'s smooth shank post screw incorporates both a **cortical** and **cancellous bone thread design** which provides enhanced pullout strength\* and screw purchase, while maximizing the strength at the bone/screw interface. The posted screw also allows for decortication without the interference of a polyaxial screw head.

Trio<sup>®</sup>+'s Ball-Ring Technology provides the surgeons with the ability to create a construct with enhanced strength\* due to the 360° circumferential locking of the rod. These benefits in combination with the preservation of the adjacent facet joints demonstrate the intraoperative value of this new medialized rod system.

\*Data on file at Styker Spine

# Ball-Ring Technology

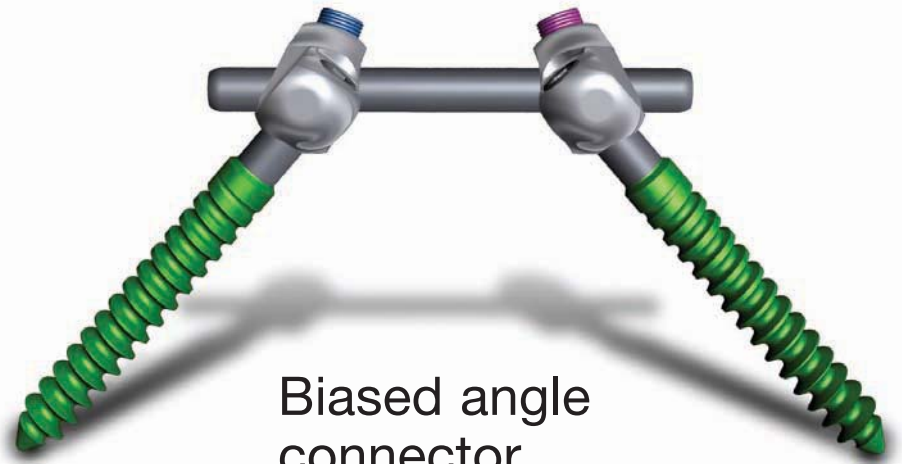
## 50°+ cone of angulation

- Coronal Variability
- Three-dimensional adaptability
- Fixation without pre-stress
- Facet preservation

## Single-step locking connector

- Connectors are pre-assembled, one unique piece
- Small, medium, large, right and left biased offset connectors
- Medial access locking

# The heart of the Trio<sup>®</sup> + connectors



## Biased angle connector

- Additional 20° of angulation
- Eases placement at L5-S1

## Circumferential locking

- Performance in axial and torsional slip

## Range of Offsets

- 7, 11 and 15 mm
- Minimizes or potentially eliminates rod bending



15 mm

11 mm

7 mm

11 mm

11 mm

# Screw Design

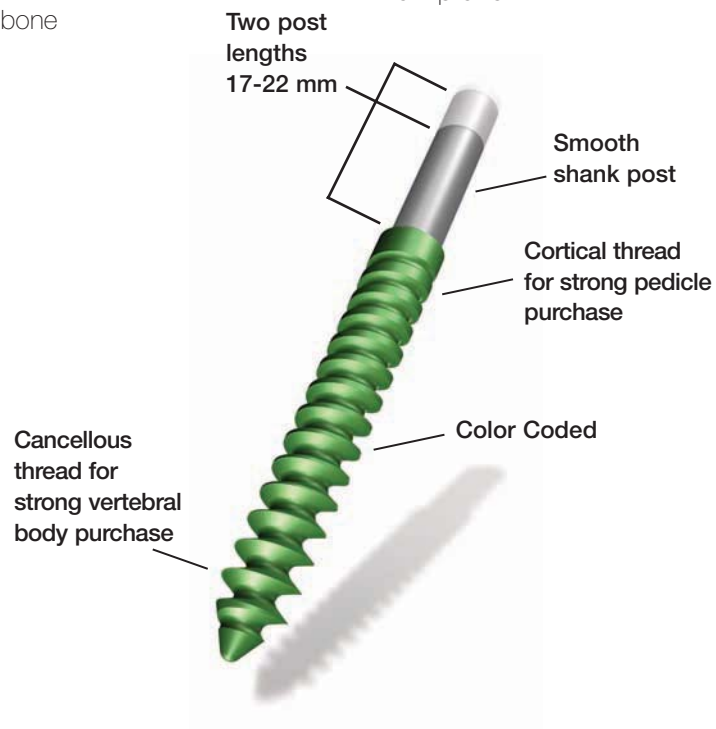
The screw design features a tapered inner diameter and a cylindrical outer diameter. The design produces a thread profile that is deepest at the tip of the screw providing excellent purchase in the anterior body of the vertebra while enabling maximum strength to be achieved at the bone-screw interface, which is the point of greatest load.

## Conical-cylindrical screw bone thread design

- Maximized strength at the bone-screw interface
- Excellent purchase in the cancellous bone

## Screw 6.0 mm head design

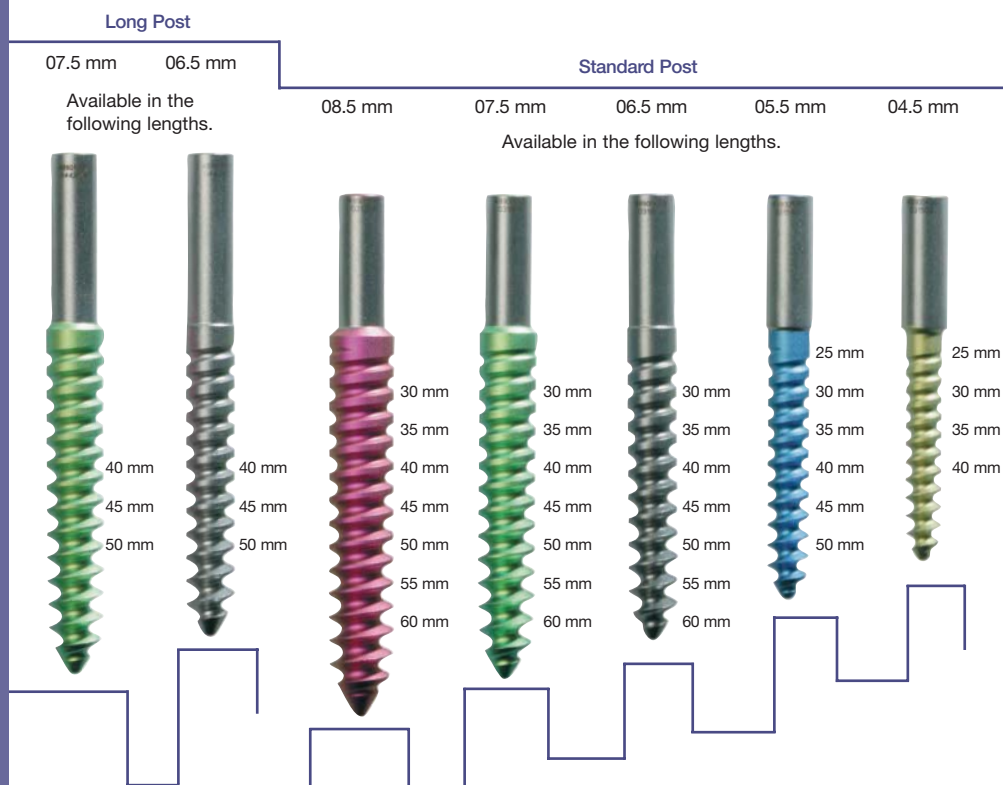
- Easier decortication
- Maximize bone graft
- Excellent visibility of the graft site
- Low profile



# Options

The Trio® screws are available in Standard and Long Posts. The Long Post screws feature a 5mm longer head and might be selected pre-operatively in the following instances:

- Fixation without reduction of a spondylolisthesis
- Superior facets preservation at the superior end of a construct



# Smart Instruments



- Inserts screw and flexible extender at the same time

## Pedicular & Combined Screwdriver

- 3.5mm male hex with self holding feature



- Connection to a round or T-Handle with or without a ratchet
- Low profile to aid visualization

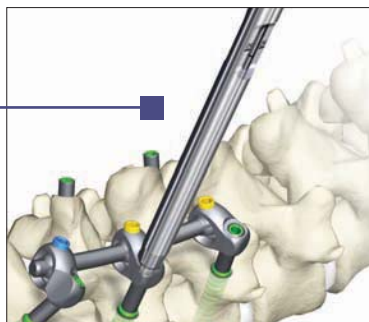
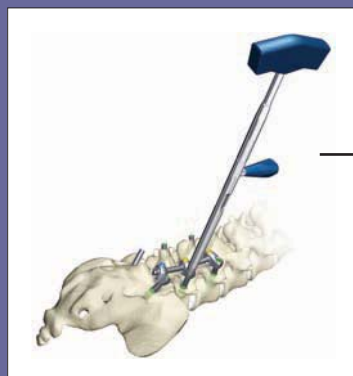
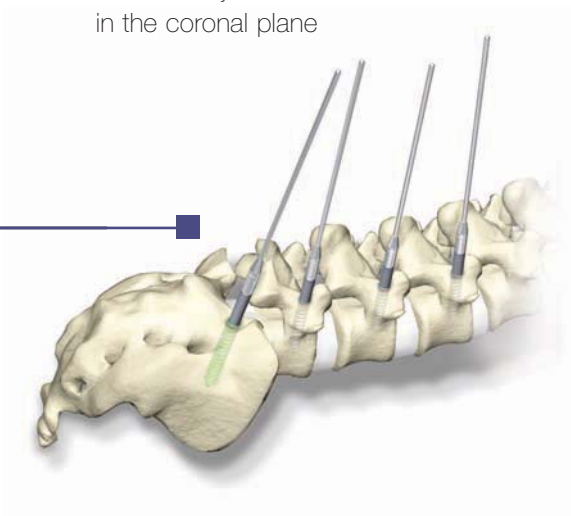
## Flexible extenders

- Guide the connectors onto the screw posts
- Especially useful in multilevel cases
- Snap in tip provides secure connection
- Shape memory alloy (SMA) material



## Derotation key

- Cannulated to slide over the flexible extenders
- Used to adjust the connectors in the coronal plane



## Spondylolisthesis reduction instrument

- Visual control through laser marking on the instrument
- Precise: 1 turn equals a 1mm reduction
- Excellent visibility

**Trio<sup>®</sup> +**

Focuses on what matters

## Patients

**“Designed with the patient in mind”**

- Facet sparing
- Potential for decreased operating time

## Performance

**“Designed for performance over time”**

- Increased values in torsional, and axial slip\*
- Xia<sup>®</sup> thread pattern for increased purchase and enhanced\* strength at the bone-screw interface

## Medical Professional

**“Designed to save you valuable time.”**

- Unique one-step locking
- Easier decortication and maximizing of bone graft
- Coronal variability, extra degree of freedom, to help ease construct placement



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**Joint Replacements**

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**Trauma, Extremities & Deformities**

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**Craniomaxillofacial**

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**EMS Equipment**

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